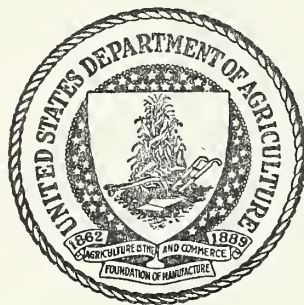


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

1.96
Ad6Fb

UNITED STATES
DEPARTMENT OF AGRICULTURE
LIBRARY



BOOK NUMBER
828659

1.96
Ad6Fb

1.96

Ad 6 FL

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Economic Research
and the
WISCONSIN AGRICULTURAL EXPERIMENT STATION
cooperating



FARM BUSINESS ANALYSIS
LINCOLN COUNTY, 1948

La Crosse & Madison, Wisconsin
September 1949

1. The first part of the paper
discusses the general principles
of the theory of the
relativity of simultaneity.
It is shown that the
time interval between two
events is not absolute, but
depends on the relative
velocity of the observer.

2. The second part of the paper

discusses the application of the
theory to the problem of the
length contraction.

FARM BUSINESS ANALYSIS
LINCOLN COUNTY, 1948 1/Introduction

Lincoln County farm land consists of many different kinds of soils, some of which are more productive than others. As usually is the case, some farmers are more successful at raising crops and livestock than others, even where the land is of the same quality. In 1947, the Soil Conservation Service and the Wisconsin Agricultural Experiment Station began a study of some of the differences in land, in production and in income from farms in the county. This report, which is based upon 56 farm records for 1948, is prepared primarily for the use of farmers who have cooperated in the study. A more detailed report will be prepared later as the study progresses.

This report includes data from farm records of 33 G.I. on-the-farm trainees, 20 Farmers Home Administration clients and 6 farm records supervised directly by the Agricultural Experiment Station. There was very little difference in average productions, income and costs between the two major groups mentioned above except for the higher investment in land, buildings, equipment and livestock on the trainee's farms. Annual depreciation and interest charges, therefore, are greater on these farms.

Volume of business plus efficiency means larger net profits.

This group of farms is typical of others in that there are wide variations in receipts, expenses and net income within the group. For example, the nine highest profit farms netted more than seven times the operator's labor earnings received by the nine lowest profit farmers of the group.

The higher incomes were due to larger scale operations - larger crop acreages and a greater number of productive livestock and to higher production efficiency - larger crop yields per acre, more efficient use of labor, higher butterfat production per cow and greater feeding efficiency. Four of the nine highest profit farms were on the better drained soil types, four were on poorly drained types and one on sandy soils.

Large gross income paid off in 1948.

The average gross farm income on the nine highest profit farms was 84 per cent greater than the average for the nine lowest profit farms. On the other hand, total farm expenses were only 25 per cent greater for the former group of farms.

More feed and commercial fertilizers were purchased on the highest profit farms and cash expenses for power and machinery, miscellaneous crops and livestock items and hired labor also were greater for the highest profit farms. Most of these expenditures contributed more or less directly towards a larger volume of production.

1/ H. O. Anderson, Project Supervisor, Economic Research, Soil Conservation Service and P. E. McNall, Division of Agricultural Economics, University of Wisconsin. Wm. Lonsdorf of the Farmers Home Administration, Joe Jackelen and King Oelhafen of the Soil Conservation District Office, Martin Burkhardt and Allan Bullis of the Merrill School of Vocational and Adult Education actively cooperated in this study.

More crops and livestock on highest profit farms.

The nine highest profit farms were larger than the average of all farms from the standpoint of all types of crops. Hay yields were 46 per cent higher, oat yields 19 per cent higher, and potato yields 6 per cent higher. These farms also were larger from the standpoint of livestock numbers and livestock production. The average dairy herd consisted of about 18 cows and 12 head of young cattle, 71 hens and 6 hogs on the nine highest profit farms as compared with 12 cows, 8 head of young cattle and 34 hens, average for all farms. Better selection of the most profitable combination of crops and livestock, higher yields per acre, proper feeding and care of livestock are necessary if incomes of the less profitable farms are to be brought in line with the higher incomes of the high profit group.

All around good farming pays.

As usual, high rating in several of the more important factors (such as man work units, value of crops per crop acre, butterfat production per cow, returns per \$100 feed, labor efficiency and crop acres per livestock unit) pays off in terms of larger net incomes. All of the nine highest profit farms were average or above, in four or more of the six factors mentioned above. In order to get into the larger net income group, it is necessary to be average, or above, in most of these factors. Figure 1 helps each farmer, cooperating in this study, to check his rating with the averages of the entire group.

No. factors above average	No. farms	Operator's labor earnings
6	3	\$3953
4 or 5	20	2345
2 or 3	25	1528
0 or 1	8	1082

Land improvement

Two of the most important factors affecting net income are size of farm as shown by the crop acreage and the crop productions from these acreages. About half of the farmers included in this group have taken steps to increase the acreage in crops or to improve the land by drainage. During the past two years, 19 of the 33 G. I. trainees cleared 87 acres and drained 129 acres, or an average of about 11 acres per farm. During this same period, 7 of the 20 F. H. A. clients, cleared 30 acres and terraced 15 acres, averaging over 6 acres per farm. The full effect of these improvements upon income will not show up for a year or two.

Small farms or low crop yields are difficult factors to overcome. These records show, however, that if the farmer is an efficient feeder and has good production from his livestock as well as being careful to use his labor to advantage, he can overcome some of the handicaps of low yields or small acreages.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in the medium containing 100 mg/l of tetracycline. The cell concentration of the strains was adjusted to 10⁸ cells/ml. The cell suspension was mixed with the plant tissue and the transformation efficiency was determined. The results are the mean of three independent experiments. Error bars represent standard deviation.

[illegible]

... ..

| Operator's
earnings | Man
work
units | Man
work
units
per man | Value of
crops
per crop
acre | Feed
purchased
per
an. unit | Returns
per
\$100
feed | Lbs. of
butterfat
sold
per cow | Crop acres
per
livestock
unit |
|------------------------|----------------------|---------------------------------|---------------------------------------|--------------------------------------|---------------------------------|---|--|
| \$5086 | 630 | 367 | \$69 | \$82 | \$375 | 325 | 1.1 |
| 4286 | 555 | 327 | 61 | 72 | 335 | 305 | 1.5 |
| 3486 | 480 | 287 | 53 | 62 | 295 | 285 | 1.9 |
| 2686 | 405 | 247 | 45 | 52 | 255 | 265 | 2.3 |
| 1886 | 330 | 207 | 37 | 42 | 215 | 245 | 2.7 |
| 1086 | 255 | 167 | 29 | 32 | 175 | 225 | 3.3 |
| 286 | 180 | 127 | 21 | 22 | 135 | 205 | 3.9 |

AVE

Figure 1.--A rating of average or better in most of these factors usually results in high operator's earnings.

Table 1.--Detail of earnings, Lincoln County, Wisconsin, 1948

| | Ave.
your
farm | Ave.
56
farms | 9 high
profit
farms | Ave. 33
G.I. 1/
farms | Ave. 20
F.H.A.1/
farms |
|---------------------------|----------------------|---------------------|---------------------------|-----------------------------|------------------------------|
| Milk and cream sold ... | | \$3386 | \$5162 | \$3418 | \$3028 |
| Cattle sales | | 825 | 1308 | 827 | 704 |
| Hog sales | | 78 | 295 | 93 | 31 |
| Poultry and egg sales.. | | 122 | 280 | 66 | 105 |
| Other livestock sales.. | | 100 | 49 | 108 | 110 |
| Off farm income | | 293 | 119 | 221 | 442 |
| Cash crop sales | | 55 | 101 | 53 | 31 |
| Wood sales | | 152 | 121 | 160 | 143 |
| Miscellaneous income... | | 190 | 131 | 225 | 170 |
| Cash receipts | | \$5201 | \$7566 | \$5171 | \$4764 |
| Farm produce used | | 588 | 626 | 498 | 676 |
| Inventory increase | | 1434 | 1705 | 1482 | 1324 |
| Gross farm income..... | | \$7223 | \$9897 | \$7151 | \$6764 |
| Feed bought | | \$ 793 | \$1204 | \$ 741 | \$ 715 |
| Auto & equipment exp. . | | 489 | 580 | 502 | 403 |
| Livestock expense | | 172 | 211 | 162 | 170 |
| Crop expense | | 316 | 485 | 334 | 203 |
| Labor hired | | 113 | 112 | 103 | 74 |
| Real estate expense ... | | 80 | 129 | 83 | 58 |
| Miscellaneous expense.. | | 283 | 390 | 277 | 238 |
| Cash operating expense | | \$2246 | \$3111 | \$2202 | \$1861 |
| Livestock bought | | \$ 254 | \$ 98 | \$ 341 | \$ 175 |
| Equipment bought | | 1093 | 1102 | 1190 | 1064 |
| Real estate improvement | | 553 | 487 | 735 | 336 |
| Inventory decrease | | -- | -- | -- | -- |
| Unpaid family help | | 559 | 440 | 554 | 567 |
| Board of hired help | | 37 | 62 | 27 | 40 |
| Total farm expense..... | | \$4742 | \$5300 | \$5049 | \$4043 |
| Net farm income | | \$2481 | \$4597 | \$2102 | \$2721 |
| Interest on investment | | 595 | 768 | 662 | 449 |
| Operator's labor earnings | | \$1886 | \$3829 | \$1440 | \$2272 |

1/ Three farms are included in both of these groups.

Table 2.--Acres in farm, Lincoln County, Wisconsin, 1948

| | Ave.
Your
farm | Ave.
56
farms | 9 high
profit
farms | Ave. 33
G.I.
farms | Ave. 20
F.H.A.
farms |
|-------------------------------|----------------------|---------------------|---------------------------|--------------------------|----------------------------|
| Alfalfa | _____ | .7 | 2.5 | .3 | .3 |
| Clover | _____ | 2.6 | 1.7 | 4.4 | -- |
| Timothy | _____ | 7.2 | 2.7 | 11.2 | .9 |
| Mixed hay | _____ | 15.5 | 22.7 | 10.0 | 24.1 |
| Other hay | _____ | .9 | -- | 1.1 | .7 |
| Total hay | _____ | 26.9 | 29.6 | 27.0 | 26.0 |
| Corn grain | _____ | .2 | 1.0 | .1 | .1 |
| Corn silage | _____ | 5.4 | 6.8 | 5.2 | 6.5 |
| Total corn | _____ | 5.6 | 7.8 | 5.3 | 6.6 |
| Oats | _____ | 11.9 | 15.2 | 11.4 | 9.9 |
| Wheat | _____ | .2 | .2 | .1 | .3 |
| Other grain | _____ | .3 | -- | .5 | -- |
| Total grain | _____ | 12.4 | 15.4 | 12.0 | 10.2 |
| Potatoes, garden & misc. | _____ | .4 | .3 | .4 | .4 |
| Total crops | _____ | 45.3 | 53.1 | 44.7 | 43.2 |
| Per cent of cropland in: | | | | | |
| Soil conserving crops | _____ | 57 | 56 | 58 | 59 |
| Row crops | _____ | 14 | 16 | 13 | 16 |
| Small grain | _____ | 29 | 28 | 29 | 25 |

Table 3.--Yields per acre, Lincoln County, Wisconsin, 1948

| | Ave.
your
farm | Ave.
56
farms | 9 high
profit
farms | Ave. 33
G. I.
farms | Ave. 20
F.H.A.
farms |
|-------------------------------|----------------------|---------------------|---------------------------|---------------------------|----------------------------|
| Alfalfa, tons | _____ | 1.7 | 2.0 | 1.7 | 1.3 |
| Clover, tons | _____ | 1.7 | 1.9 | 1.7 | -- |
| Timothy, tons | _____ | .9 | 1.3 | .9 | .9 |
| Mixed hay, tons | _____ | 1.5 | 1.9 | 1.3 | 1.5 |
| Miscellaneous hay, tons | _____ | 1.0 | -- | 1.1 | 1.0 |
| All tame hay, tons | _____ | 1.3 | 1.9 | 1.2 | 1.4 |
| Corn silage, tons | _____ | 8.9 | 10.2 | 8.3 | 8.8 |
| Oats, bu. | _____ | 37.0 | 44.0 | 35.0 | 38.0 |
| Potatoes, bu. | _____ | 123.0 | 131.0 | 108.0 | 128.0 |

Table 4.--Miscellaneous comparisons, summary table, Lincoln County, Wisconsin, 1948

| | Ave.
your
farm | Ave.
56
farms | 9 high
profit
farms | Ave. 33
G. I.
farms | Ave. 20
F.H.A.
farms |
|-------------------------------|----------------------|---------------------|---------------------------|---------------------------|----------------------------|
| Operator's labor earnings... | _____ | \$1886 | \$3829 | \$1440 | \$2272 |
| Man work units | _____ | 330 | 414 | 321 | 317 |
| Man work units per man | _____ | 207 | 275 | 205 | 207 |
| Crop acres | _____ | 45.3 | 53.1 | 44.7 | 43.2 |
| Value of crops per crop acre | _____ | \$ 37 | \$ 49 | \$ 34 | \$ 40 |
| Crop acres per L.S. unit ... | _____ | 2.7 | 2.1 | 2.7 | 2.9 |
| Animal units | _____ | 17.8 | 26.5 | 18.0 | 15.7 |
| Butterfat sales per cow, lbs. | _____ | 247 | 255 | 244 | 251 |
| Returns per \$100 feed | _____ | \$ 214 | \$ 220 | \$ 227 | \$ 198 |
| Feed purchased per L.S. unit | _____ | \$ 42 | \$ 45 | \$ 38 | \$ 46 |

Table 5.--Farm investment, Lincoln County, Wisconsin, 1948

| | Ave.
your
farm | Ave.
56
farms | 9 high
profit
farms | Ave. 33
G. I.
farms | Ave. 20
F.H.A.
farms |
|----------------------------|----------------------|---------------------|---------------------------|---------------------------|----------------------------|
| Land and buildings | _____ | \$ 6,331 | \$ 7,420 | \$ 7,359 | \$ 4,305 |
| Machinery | _____ | 2,158 | 3,051 | 2,208 | 1,963 |
| Feed | _____ | 832 | 1,315 | 799 | 659 |
| Supplies | _____ | 109 | 217 | 120 | 31 |
| Productive livestock | _____ | 2,387 | 3,266 | 2,672 | 1,944 |
| Horses | _____ | 86 | 88 | 88 | 78 |
| Total | _____ | \$11,903 | \$15,357 | \$13,246 | \$ 8,980 |

Table 6.--Livestock organization, Lincoln County, Wisconsin, 1948

| | Ave.
your
farm | Ave.
56
farms | 9 high
profit
farms | Ave. 33
G. I.
farms | Ave. 20
F.H.A.
farms |
|------------------------------|----------------------|---------------------|---------------------------|---------------------------|----------------------------|
| Cows, no. | _____ | 12.1 | 17.8 | 12.4 | 10.5 |
| Other cattle, no. | _____ | 8.1 | 11.8 | 8.0 | 7.3 |
| Sheep, no. | _____ | .1 | -- | -- | .3 |
| Hens, no. | _____ | 34.0 | 71.0 | 23.0 | 33.0 |
| Turkeys, no. | _____ | 3.0 | -- | -- | 9.0 |
| Hogs, no. | _____ | 1.7 | 5.7 | 2.1 | .8 |
| Productive livestock units. | _____ | 16.7 | 25.1 | 16.8 | 14.7 |
| Horses, no. | _____ | 1.1 | 1.4 | 1.2 | 1.0 |
| Total livestock units | _____ | 17.8 | 26.5 | 18.0 | 15.7 |
| Butterfat sold, lbs. | _____ | 2963 | 4547 | 2972 | 2641 |
| Butterfat sold per cow, lbs. | _____ | 247 | 255 | 244 | 251 |

1. The first part of the report deals with the general situation of the country and the progress of the work. It is a very interesting and informative document.

2. The second part of the report deals with the specific results of the work. It is a very detailed and comprehensive document.

3. The third part of the report deals with the conclusions and recommendations. It is a very clear and concise document.

4. The fourth part of the report deals with the appendix. It is a very useful and informative document.

5. The fifth part of the report deals with the bibliography. It is a very complete and up-to-date document.

6. The sixth part of the report deals with the index. It is a very helpful and easy-to-use document.

7. The seventh part of the report deals with the summary. It is a very brief and to-the-point document.

8. The eighth part of the report deals with the conclusion. It is a very final and definitive document.

9. The ninth part of the report deals with the appendix. It is a very useful and informative document.

10. The tenth part of the report deals with the bibliography. It is a very complete and up-to-date document.

11. The eleventh part of the report deals with the index. It is a very helpful and easy-to-use document.

12. The twelfth part of the report deals with the summary. It is a very brief and to-the-point document.

13. The thirteenth part of the report deals with the conclusion. It is a very final and definitive document.

14. The fourteenth part of the report deals with the appendix. It is a very useful and informative document.

15. The fifteenth part of the report deals with the bibliography. It is a very complete and up-to-date document.

16. The sixteenth part of the report deals with the index. It is a very helpful and easy-to-use document.

17. The seventeenth part of the report deals with the summary. It is a very brief and to-the-point document.

18. The eighteenth part of the report deals with the conclusion. It is a very final and definitive document.

19. The nineteenth part of the report deals with the appendix. It is a very useful and informative document.

20. The twentieth part of the report deals with the bibliography. It is a very complete and up-to-date document.

